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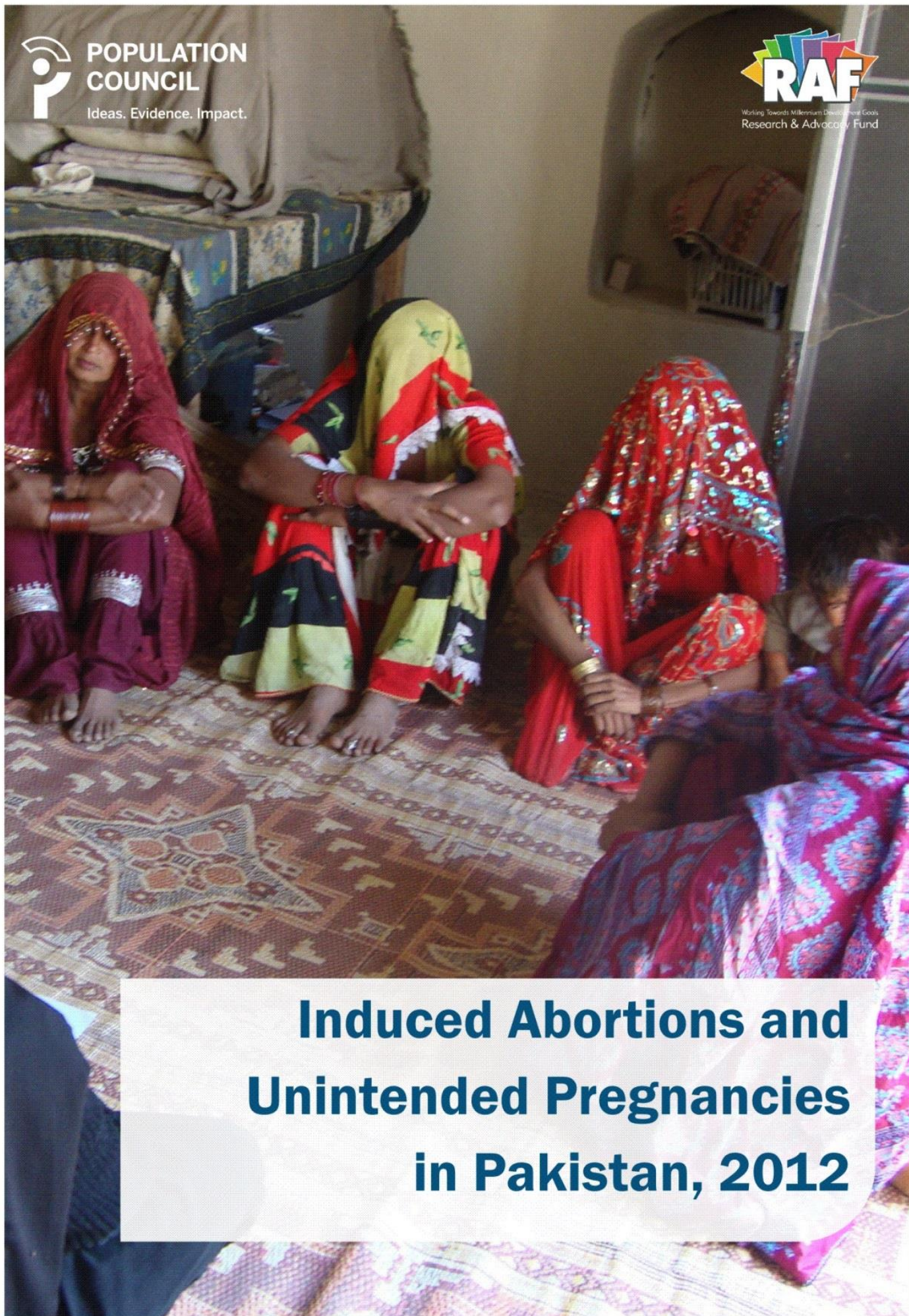


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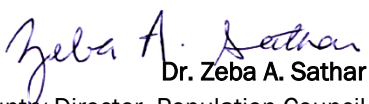
Induced Abortions and Unintended Pregnancies in Pakistan, 2012

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Declaration

"I have read the report *Induced Abortions and Unintended Pregnancies in Pakistan, 2012*, and acknowledge and agree with the information, data and findings contained."


Dr. Zeba A. Sathar
Country Director, Population Council
Islamabad

Acknowledgment

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Disclaimer

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Acknowledgements

This report is based on the analysis of data from **Post Abortion Care in Pakistan: A National Study** supported by the Maternal and Newborn Health Programme, Research and Advocacy Fund (RAF) from 2011 to 2013. Data were then analyzed using indirect techniques developed by the Guttmacher Institute to estimate the number of induced abortions and unwanted pregnancies each year in Pakistan and its four major provinces. The analysis was supported by a Packard Foundation grant to Guttmacher.

This report was written to reach a wider audience of readers within and beyond Pakistan. The article upon which it is based, “Induced Abortions and Unintended pregnancies in Pakistan, 2012,” will appear in the December 2014 issue of *Studies in Family Planning*. We are grateful for review of the report by Dr. Susheela Singh and Vanessa Woog of the Guttmacher Institute.

Abstract

The 2012-2013 PDHS (Pakistan Demographic and Health Survey) shows that gains in contraceptive prevalence over the past decade have been small, and unmet need has remained high. Using data from a 2012 national study on post-abortion care (a methodology developed by Guttmacher Institute for estimating abortion incidence), we estimate 2.2 million abortions occurred in Pakistan in 2012, as well as an annual abortion rate of 50 per 1,000 women. A previous study estimated an abortion rate of 27 for 2002. Even accounting for an underestimation of abortion incidence (private sector abortion services could not be included) in the prior study, the abortion rate in Pakistan has likely increased substantially between 2002 and 2012.

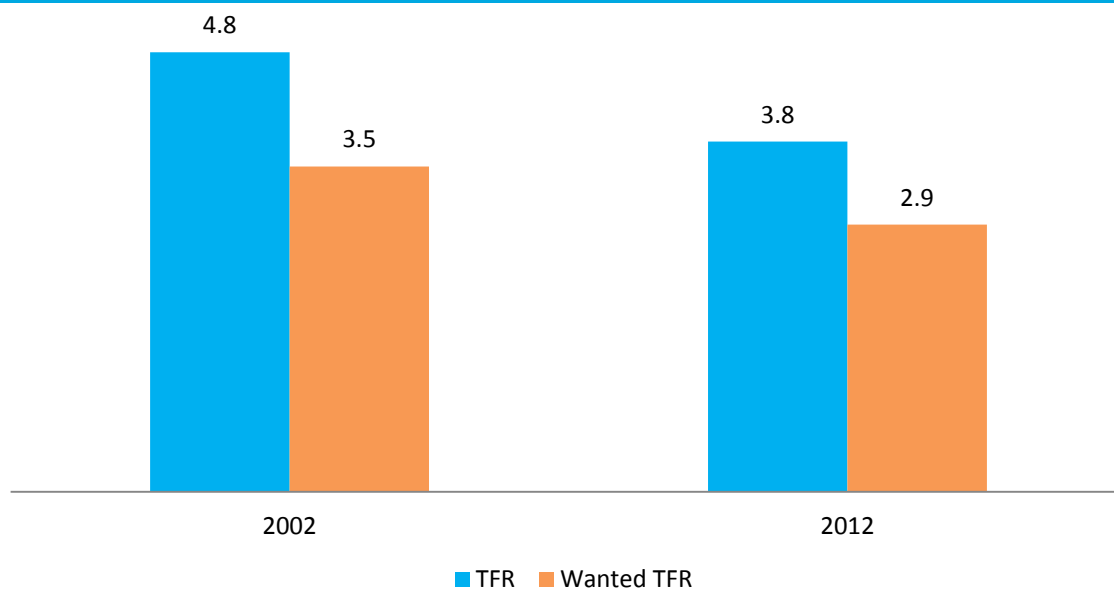
There are significant differences in abortion incidence among Pakistan's provinces, with higher abortion rates in Sindh and Baluchistan than in Punjab and Khyber Pakhtunkhwa (KP). Combined with different contraceptive use patterns, these data suggests that strategies for coping with otherwise uniformly high unintended pregnancy rates differ across provinces. The need for an accelerated and fortified family planning program is greater than ever, as is the need for implementing strategies to improve the quality and coverage of safe abortion services.

Introduction

Pakistan is the world's sixth most populous country with a record of slow fertility decline compared to other Asian countries. The total fertility rate declined from about six children per women in the early 1980s to 4.4 in 2001-2003, and the trend has slowed in the past decade, falling to 4.1 in 2004-2006 and slightly further to 3.8 in 2010-2012 (NIPS, Macro International Inc. 2008 and NIPS/ICF 2013).

There are some apparent significant declines in both wanted and overall fertility (Figure 1). The gap between actual and wanted fertility of one child has remained steady over the past decade, but uptake of contraceptive use has been quite slow, rising from 30 percent in 2006-2007 to only 35 percent in 2012-2013 among married women (NIPS/ICF 2013). Meanwhile, less effective traditional methods are used by a substantial proportion of all current users (26%). Discontinuation of method use is high, with 37 percent of all contraceptive use episodes were discontinued in less than one year (NIPS/ICF 2013). Despite a moderate decline from 25 percent in 2007 (NIPS, Macro International Inc. 2008) to 20 percent in 2013 (Bradley et. al. 2012, NIPS/ICF 2013), unmet need for contraception is still high. As a result, a large fraction of currently married women are at risk of unwanted pregnancy (NIPS/ICF 2013).

Figure 1: Total and wanted fertility rates 2002-2012



Source: For 2002-Pakistan Reproductive Health and Family Planning Survey 2000-2001; for 2012 PDHS 2012-13.

A national study of abortion in Pakistan (Population Council 2004) found that 890,000 induced abortions were performed in Pakistan in 2002. Widespread use of abortion in Pakistan is supported by many small community studies (Mahmud and Mushtaq 2001, Saleem and Fikree 2001, Vlassoff et al. 2009, Khan 2009, Khan 2013), despite the fact abortion is legally restricted in Pakistan. In 1990 the law was slightly relaxed to permit abortion to save the mother's life or provide "necessary treatment" (United Nations 2002, Pakistan Ordinance VII 1990, Rahman, Katzive, Henshaw 1998).

No national study in Pakistan has estimated the incidence of abortion and its related morbidity since the 2002 study (Sathar et al. 2007). The recent devolution of federal power to the provinces, in the 18th Constitutional amendment, has empowered provincial Health and Population Welfare departments to develop their own policies and programs based on provincial realities and available evidence. As a result,

providing provincial government departments with new, updated estimates on the magnitude of abortion and unintended pregnancy is essential to help policymakers understand the need for expanding the provision of contraceptive services to reduce unintended pregnancy, and to improve post-abortion care (PAC) services to reduce abortion-related morbidity and mortality.

This report presents findings on post-abortion complications from a 2012 national study on unintended pregnancies, induced abortion, and treatment of post-abortion complications (Sathar et al 2013), with changes in key reproductive health (RH) indicators in the last decade and provincial analyses included.

Data Sources and Methodology

For this study, three types of data sources were used: A Health Facilities Survey (HFS) of public and private facilities providing RH care, a Health Professional Survey (HPS) of experts knowledgeable of PAC service provision in Pakistan, as well as supplementary data sources including the Pakistan Demographic and Health surveys, the Pakistan Social and Living Standard Measurement survey, and GIS Census of Health facilities.

The overall design of the study was based on the 2002 study of abortion incidence in Pakistan (Sathar et al. 2007), using an internationally accepted indirect estimation technique developed in the early 1990s and which has been applied in about 20 countries (Singh and Wulf 1994, Singh et al. 2012, Henshaw 1998, Juarez and Singh 2012). Developed by the Guttmacher Institute, this methodology involves estimating the number of women with post-abortion complications treated in health facilities to construct the estimate of the number and rate of induced abortions (Singh et al. 2010).

The advantage of this approach is that it produces estimates for the country as a whole, and for each province, for total abortions, annual abortion rates, and abortion ratios. This study also estimates the numbers and rates of women treated in health facilities for induced abortion complications, an important indicator of abortion-related morbidity.

The indirect method has three steps, each of which is described in further detail in Appendix 1:

1. Estimating the total number of PAC cases treated in health facilities annually (based on HFS data);
2. Estimating the number of PAC cases treated for spontaneous and induced abortion;
3. Calculating the multiplier factor (based on HPS data).

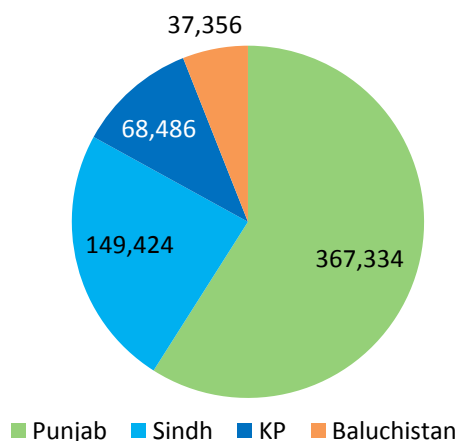
The results from the last two steps are combined to estimate the total number of induced abortions.

Findings

Treatment for post-abortion complications

There were an estimated 622,600 women treated for complications resulting from induced abortion in Pakistan in 2012, in both public and private sector facilities. The majority of these complications were treated in Punjab, with fewer cases in Sindh, KP, and Baluchistan (Figure 2).

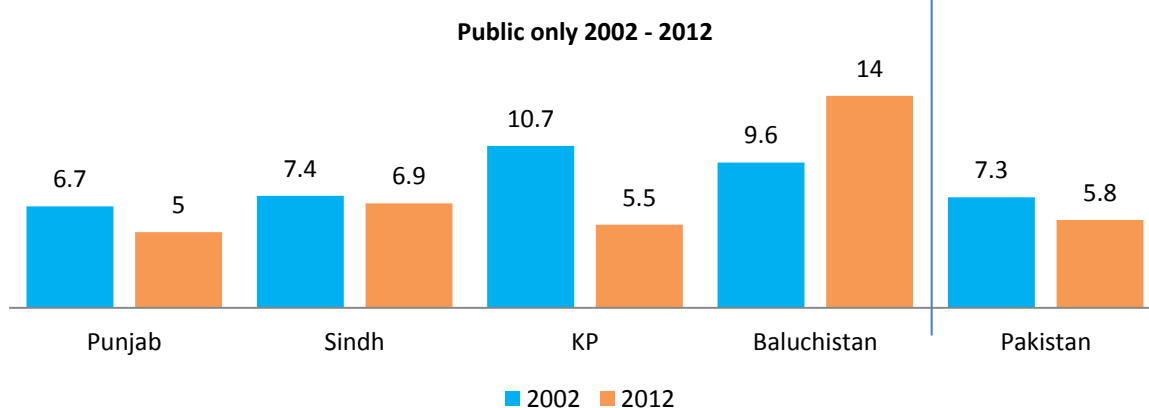
Figure 2: Distribution of total induced abortion, by province



About 62 percent of all women treated for any abortion complications in 2012 obtained care in private facilities, evincing the large role the private sector plays in PAC provision. The proportion of women treated in private facilities is highest in Punjab (about 70%), high in Sindh (58%) and KP (57%), while much lower in Baluchistan (39%).

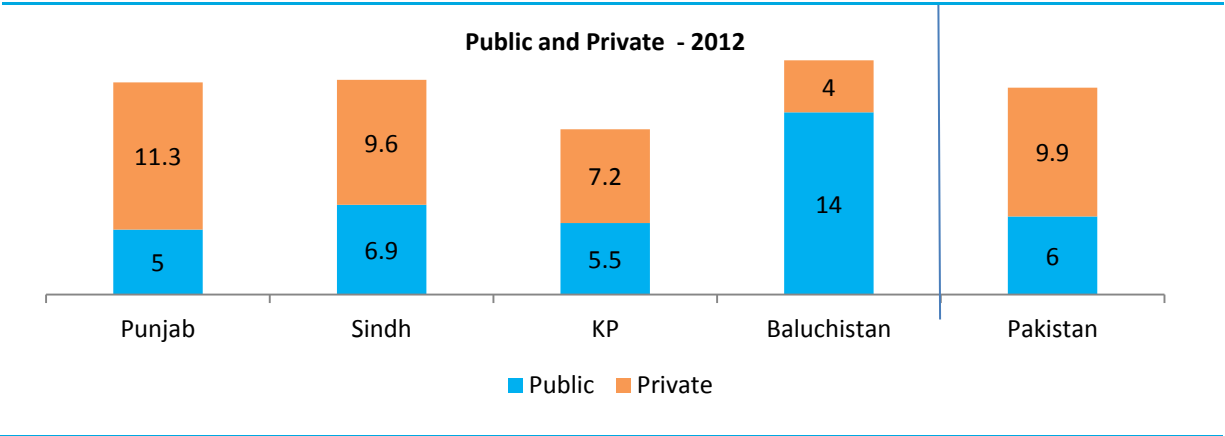
Unfortunately, it is not possible to fully assess the changes in the overall treatment rate between 2002 and 2012 because the 2002 HFS did not survey a representative sample of private facilities. A comparison can be made, however, of complications treated in public facilities from 2002 and 2012 (Figure 3). This rate declined in three of the four provinces, most markedly in KP, but increased in Baluchistan (where about 80% of PAC care occurs in the public sector), from 9.6 to 14.0 per 1,000.

Figure 3: Treated complication rate, 2002–2012, in public facilities



The combined public and private annual treatment rate of 15.9 per 1,000 women 15 to 49 years old is quite high compared to most countries, which typically range between five and 10 per 1,000 (Figure 4) (Singh 2006). Treatment rate varies by province, with rates of about 16 for Sindh and Punjab compared to 13 in KP and 18 in Baluchistan. The rate of treatment reflects the combined effect of the level of safety of the abortion procedures women are utilizing and their care at health facilities.

Figure 4: Treatment rate in public and private facilities, by province, 2012

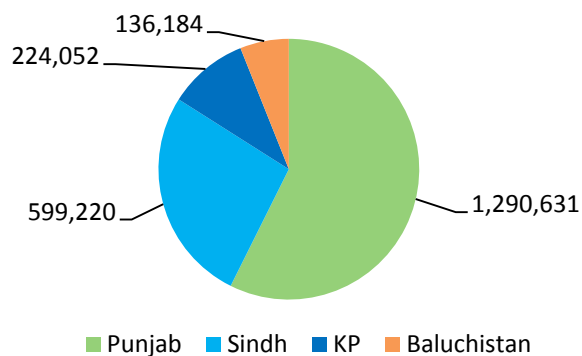


Lacking representative data on private sector PAC provision in 2002, definitive answers are not possible for some important questions, namely: Whether, and if so by how much, the overall rate of treated abortion complications increased in the past decade; and to what extent the private sector’s role has increased in providing PAC services. Data available on the proportion of private sector facility-based deliveries show, however, that a substantial increase occurred, from 12 percent to 34 percent, between 2001 and 2012 (Federal Bureau of Statistics 2003, Pakistan Bureau of Statistics 2013), and public sector’s role declined. This change provides some support for expecting increased private sector PAC service provision, and the relatively small decline in the public sector rate of abortion complications treatment also suggests that the overall treatment rate has most likely increased over the past decade.

Incidence of Induced Abortions in 2012

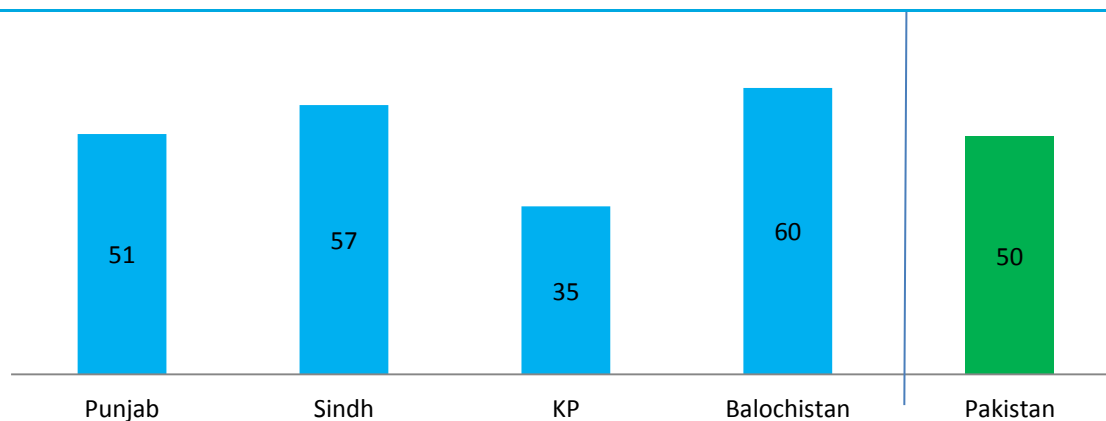
Pakistani women are estimated to have had 2.25 million abortions in 2012. This number is considerably higher than the estimation for 2002. In Punjab alone 1.29 million induced abortions are estimated, and in Baluchistan it is about 136,000 (Figure 5).

Figure 5: Induced abortions among women ages 15 to 49, by province, 2012



The national abortion rate is 50 per 1,000 women 15 to 49 years old. There is substantial variation among the provinces, with the highest induced abortion rates in Baluchistan (60) and Sindh (57), followed by Punjab (51), and the lowest rate in KP province (35) (Figure 6).

Figure 6: Abortion rates by province, 2012



The previous study of abortion incidence estimated an abortion rate of 26.5 for women ages 15 to 49 in 2002 (Population Council 2004). As indicated earlier, that study did not estimate PAC services in the private sector, so its estimate of abortion incidence may have underestimated the true rate. The 2012 abortion rate estimated at 50 implies an increase of 90 percent from 2002. Even allowing for some underestimation in the rate for 2002, a significant increase is likely over this 10 year period. In addition, the increase in population over the past decade also contributed to the increase in abortions in 2012.

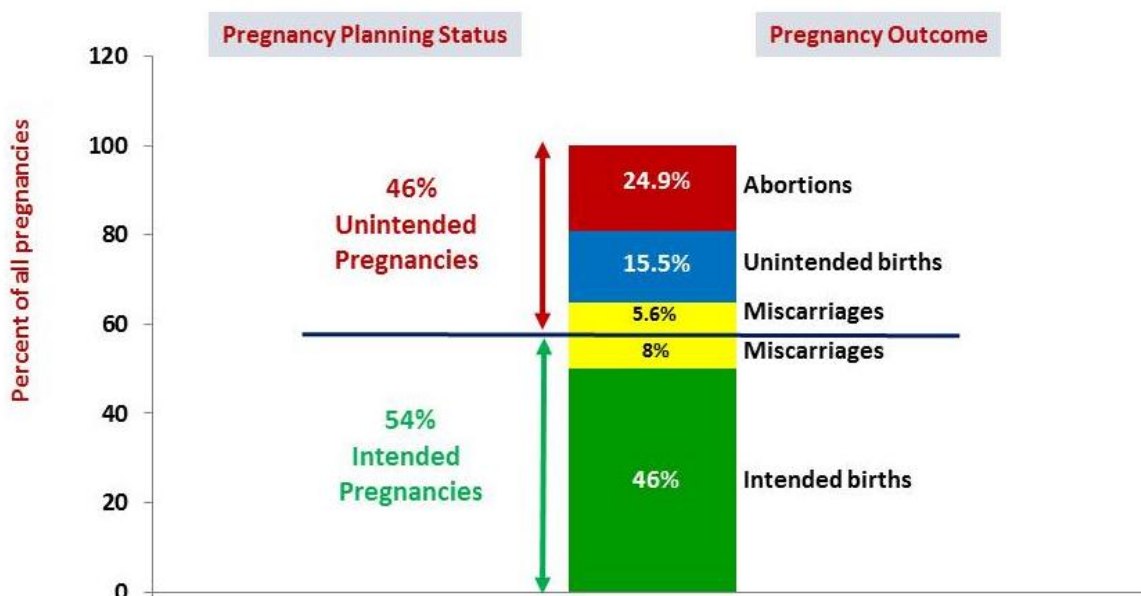
Another useful measure, the abortion ratio (number of abortions per 100 births) provides a different perspective, and is a direct indicator of the likelihood women experiencing unintended pregnancy will choose abortion rather than giving birth. Nationally, the abortion ratio is 41 abortions to 100 live births, and rises to 47 per 100 live births in Sindh and Baluchistan. The abortion ratio is lowest in KP, where it is 28.

Unintended Pregnancy and Contraceptive Prevalence

There were approximately nine million pregnancies in Pakistan in 2012. We estimate that 46 percent of all pregnancies, or approximately 4.2 million in 2012, are unintended (Figure 7). Of an estimated 4.2 million unintended pregnancies, 54 percent are resolved as induced abortions, and 34 percent result in an estimated 1.4 million unplanned births. These abortions carry huge costs, witnessed by the large numbers of women who seek treatment for abortion complications. In addition, unplanned births create their own economic, social, and health burdens for families, and especially mothers.

Figure 7: Planning status and outcome of all pregnancies in Pakistan, 2012

4 Million Unintended Pregnancies



While there is little variation in the percentage of unintended pregnancies by province, the proportions of unintended pregnancies resulting in induced abortions vary significantly. Sindh and Baluchistan have the highest proportions of unintended pregnancies ending in induced abortions (about 62%). Once again, this indicator is lowest in KP though still high, at 40 percent (Figure 8).

Punjab has the highest contraceptive prevalence rate, at 41 percent, and an abortion rate equal to the national average, while Sindh and Baluchistan, with lower contraceptive prevalence rates (30% and 20%, respectively) have higher than average abortion rates. Women in Sindh and Baluchistan have apparently adopted abortion as an important means of controlling unwanted fertility, more so than in Punjab. In KP, where contraceptive use is low (28%), abortion is also much lower than average, while the proportion of unplanned births is higher than average. More in-depth analysis is needed to better understand factors related to provincial variations in unintended pregnancy, contraceptive use, and abortion.

Figure 8: Unintended pregnancies by outcome among women ages 15 to 49, by province, 2012

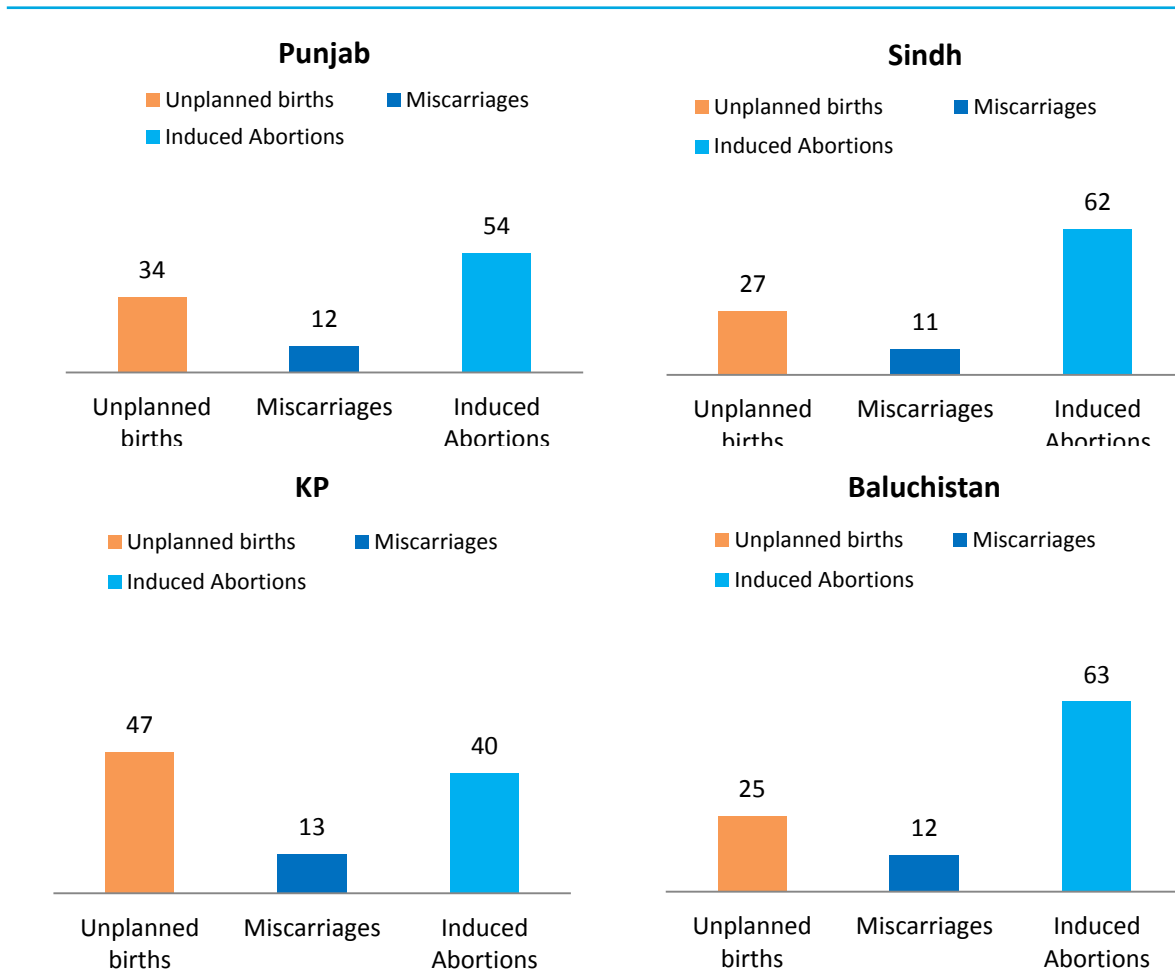
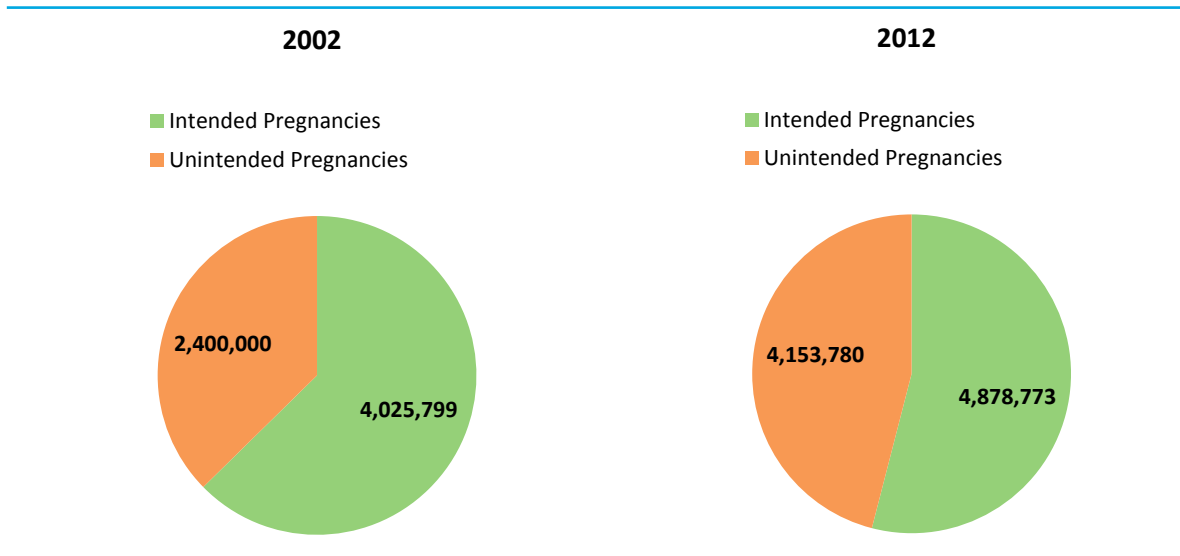


Figure 9 compares the distribution of intended and unintended pregnancies in 2002 and 2012. It clearly shows an increase in the proportion of unintended pregnancies over the decade.

Figure 9: Number of intended and unintended pregnancies, 2002-2012



The unintended pregnancy rate increased from 70.5 to 92.8 per 1,000 women 15 to 49 years old between 2002 and 2012, as has the proportion of unintended pregnancies (from 37.6% to 46%). Several factors could be increasing unintended pregnancy and induced abortions. Low overall contraceptive use, at 35 percent (with use of modern methods at only 26%), and a high first year discontinuation rate of 37 percent among married women (NIPS/ICF 2013), all reinforce the fact that contraceptive use in Pakistan is at sub-optimal levels and is inadequate to meet the growing demand for fertility regulation.

Discussion

Women in Pakistan are not able to meet their RH needs, as indicated by high levels of unmet need for contraception and unwanted childbearing. Results from this study estimate that four million women face unintended pregnancies each year, and more than half of them have an abortion to avoid having a birth. The incidence of induced abortion estimated by this study—2.25 million abortions annually and an abortion rate of 50 per 1,000 women ages 15 to 49—reflects an unexpectedly high practice of abortion to limit unintended pregnancies. The resultant 712,000 women treated for all post-abortion complications in health facilities is also considerable and presents a heavy burden for the health system.

Data show that women treated for abortion complications increased between 2002 and 2012. A similar change can be seen in the proportion of unintended pregnancies as well as the abortion rate: the former rose 22 percent between 2002 and 2012 while the latter increased by 90 percent in the same years. These findings point to real constraints in the delivery of RH services in Pakistan, which seems to be worsening. A more carefully conceived strategy encouraging the integration of FP and birth spacing counseling and services with women's routine antenatal care (ANC) and child immunization, particularly with integration at the time of delivery, would be the best way of capitalizing increasing opportunities for service that exist in the system. It is essential to integrate FP and PAC services into one service delivery package.

Currently, public sector FP and PAC service provision are largely separate. The separation of these services into isolated delivery elements is contrary to comprehensive care, which would incorporate FP counseling when women arrive at facilities for complications management, and ideally even where women seek safe, clandestine abortion services.

Given that PAC provision is mandated in public facilities, stronger policies and better resources for improving doctor and mid-level provider training in safer post-abortion complications management methods are required. In addition, training in PAC management should also be part of pre-service curricula for all health care providers, at all levels. In conjunction with the Society of Obstetricians and Gynecologists of Pakistan (SOGP) and other stakeholders, efforts are underway to improve medical practice and adherence to recommended standards for such care, including improving essential equipment and medicine availability. This study's findings indicate the need for increasing provider training along with improving availability of PAC equipment and medicines. Public facilities in particular lack essential components for providing PAC services, such as MVA kits, disinfection equipment, and trained providers available around the clock.

Implications for Policies and Programs

The findings presented in this report emphasize the enormous needs in Pakistan, and after the 18th Constitutional amendment, provinces must design better policies and programs to address the health consequences of unsafe abortion and help women and couples prevent unintended pregnancy. These findings provide guidance to stimulate policy discussions and suggest actions for achieving improvements in policies and service provision.

To reduce the number of women with unintended pregnancies as well as those suffering from post-abortion complications, action is needed in the following ways:

- Improving access to quality contraceptive services, especially in rural areas. Pakistan's high abortion rate, particularly in Sindh and Baluchistan, suggests a strong need for a robust FP program and better access to such services. Expanding the availability of FP services requires a realization by the health sector that FP is an essential part of maternal, neonatal and child health (MNCH) service provision and primary health care (Sathar, Wazir, Sadiq 2013). Currently, MNCH delivery and FP service provision remain segregated. Numerous opportunities exist in the health sector during antenatal, delivery, and postpartum care, not to mention post-abortion care, when providers can counsel clients on FP and also link them with services and referrals.
- Expanding public sector services will require training additional health care providers. Integrating services will require new policies and guidelines. Ensuring availability of quality contraceptive care will require an uninterrupted supply of the full contraceptive range in all health facilities, especially primary health facilities. Public sector provision has to improve in all major provinces but especially in Baluchistan and KP, where the private sector role is still to evolve.
- Involving the private sector FP provision is relatively untried. The private sector, with the exception of some NGOs, is not a major source of contraceptive care. The dominant role of the private sector in PAC services shown in the national PAC study, especially in Sindh and Punjab, suggests huge room for including provisions for birth spacing and FP service counseling in the private sector.

Appendix 1: Methodology

Step 1: Estimating the total number of PAC cases treated in health facilities. Information collected by the HFS was weighted to represent all facilities in the country, producing estimates of national totals of the number of women treated for any post abortion complication in all public and private sector facilities.

The estimated weighted total number of women treated annually for any post abortion complications in all public and private facilities, based on the 2012 HFS, is 712,000. This total includes some women who have been hospitalized because of complications from a spontaneous pregnancy loss, or miscarriage, rather than an induced abortion and must be separated, to obtain the numbers treated for induced abortions.

Step 2: Estimating the number of PAC cases treated for spontaneous and for induced abortion. An indirect method is used to estimate the number of women expected to be hospitalized for spontaneous miscarriages, based on the known biological pattern of pregnancy loss by gestation. Its advantage is that it is comparable across areas and populations. The distribution of miscarriages by length of gestation and the proportion of pregnancies ending as live births (not taking induced abortion into account) are both fairly constant across populations¹.

We assume that late miscarriages (gestation of 13 to 21 weeks) are likely to be accompanied by complications that require care in health facilities. Late miscarriages may be expressed as a proportion of pregnancies ending in live births, and this standard proportion may then be applied to the actual number of live births in an area or country to obtain an estimate of the number of women having late miscarriages².

The number of women likely to be hospitalized for a late spontaneous abortion was calculated by applying the proportion of 3.41% to the number of live births occurring in 2012 nationally in Pakistan (5.46 million live births)³.

But not all women who experience a late spontaneous abortion seek care or have access to health facilities. In fact in Pakistan, due to limited access to health services, only a fraction will make it to an appropriate health facility. To obtain the number of women likely to be treated in health facilities for complications of late spontaneous abortions, a further adjustment is necessary. We assume that the proportion of women having a late spontaneous abortion who are likely to receive such care is the same as the proportion of women giving birth who deliver in health facilities. This last piece of information is available from the 2012-13 PDHS. Nationally, the survey shows 48% of women delivered at a health facility, ranging from about 40% in Baluchistan and KP provinces to 59% in Sindh province.

The resulting estimated annual number of spontaneous abortion cases treated in facilities is 90,000, equivalent to 21% of the total number of PAC cases treated each year for abortion complications. When these women are subtracted from the total of 712,000 women treated for any post abortion complications, the remaining 623,000 women is the number estimated to be treated for induced abortion complications in facilities, each year.

¹Data on the distribution are available both historically and from more recent clinic-based studies in the United States and other countries (Bongaarts and Potter 1983; Harlap et al. 1980).

²In the absence of induced abortion, miscarriages at 13-21 weeks gestation account for about 2.89% of all observed pregnancies (i.e. of pregnancies that are observed at five weeks' gestation), and for 3.41% of pregnancies that end in live births (84.8% of all observed pregnancies end in live births, and $2.89/84.8 = 3.41\%$).

³The annual number of births in Pakistan in 2012 is calculated by applying age specific fertility rates for each 5-year age-group from the 2012-13 PDHS to the number of women in each 5-year age-group, for women of reproductive age, 15-49.

Step 3: Calculating the multiplier factor and the total number of induced abortions. It is generally accepted that the number of women treated for complications of induced abortion represent only the tip of the iceberg, where the submerged part represents all other women also having clandestine abortions but who are invisible to society because they are not being seen in health facilities. Among all women having abortions, there are two other categories that are separate from the group who received treatment in facilities. One of these two groups are those women who have a safe though clandestine induced abortion, and who do not experience serious medical complications that require treatment in a health facility: groups of women who are likely to be able to obtain a safe abortion include better off women who can afford the fees of trained health professionals, women who live in urban areas and therefore have better access to modern medical care, as well as better educated women who recognize the dangers of seeking an abortion from an unskilled provider and who can afford the cost of modern medical care. The second of these two groups includes women who suffer serious complications but who do not obtain needed facility-based medical care (a group that includes women who die from abortion); this group includes women who may be fearful of drawing attention to the fact that they have done something illegal; they may not know where to obtain treatment; they may live too far from a medical facility; or they may not be able to afford to travel to a facility or pay for the costs of treatment.

We need to estimate the proportion of women likely to be treated in health facilities for complications, among all women obtaining induced abortions. The inverse of this proportion is often referred to as a multiplier, or inflation factor, that can then be applied to the known number of women treated in facilities for induced abortion complications. For example, if 20% of women having abortions are treated for complications (i.e. one out of every five women), the inflation factor would be five, and the number of induced abortion PAC cases would have to be multiplied by five to obtain an estimate of the total number of induced abortions that occur annually.

The multiplier must be grounded in the reality of the country⁴. This factor is estimated for Pakistan based on information obtained in the HPS from 102 health care professionals across the country on their perceptions of some key aspects of abortion provision, differentiating according to four main population subgroups (poor urban, non-poor urban, poor rural and non-poor rural): the percentage distribution of all women seeking an abortion according to the source they go to (doctors, midwives, untrained providers, pharmacists and woman herself); the probability that a woman will experience serious medical complications if she obtained an abortion at each of these sources; and the probability that a woman would obtain medical care for such complications.

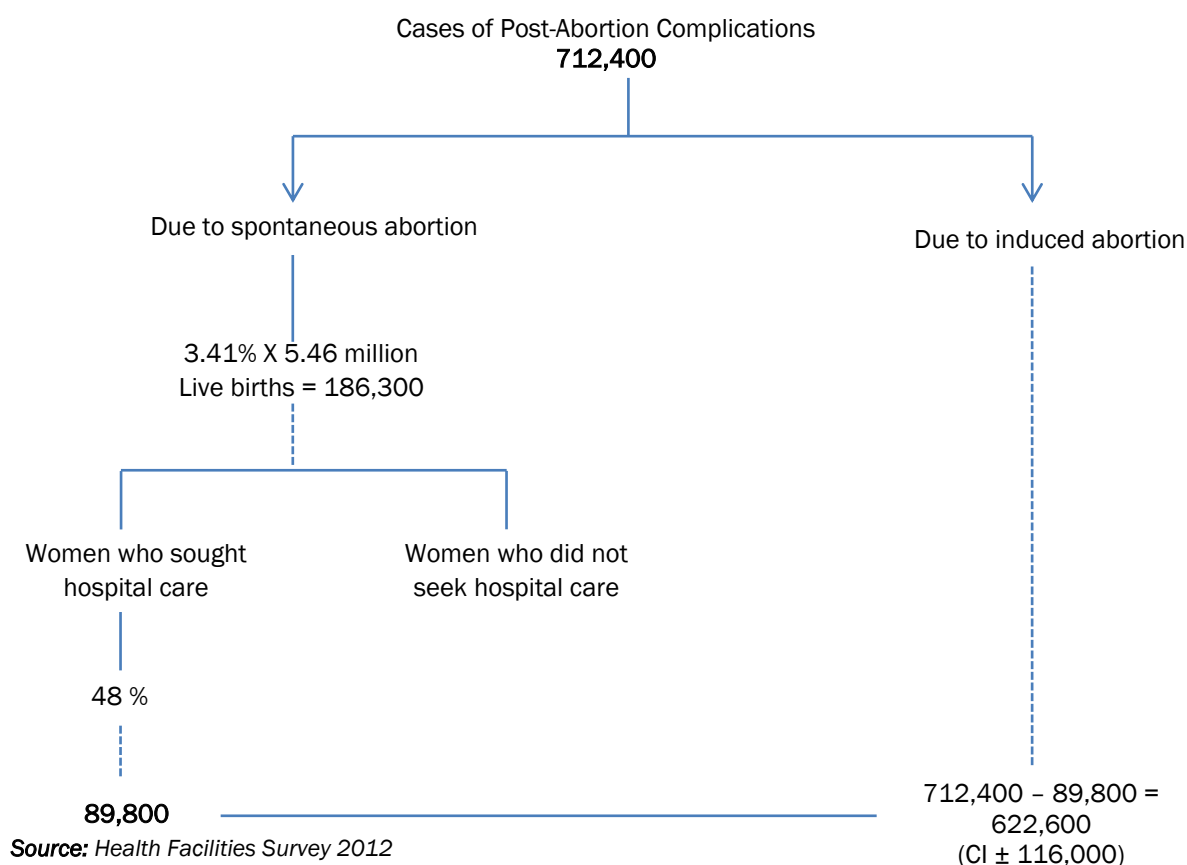
Combining this information we calculate the proportion of all women seeking an abortion who are likely to have a serious medical complication and also to obtain facility-based care for it (ranging narrowly from a low of 24% among rural poor women, due to their low access to hospital care, even though they are likely to have a high proportion experiencing complications to 28 to 30% among the other three groups). These proportions, weighted by the estimated population size of the four subgroups nationally, produce an overall proportion of 27.7% obtaining hospital care among all women who obtain an abortion. The national multiplier based on this proportion is 3.61 (100/27.7).

⁴In general, the safer clandestine abortion services are, the higher the multiplier, because for every one woman who obtained treatment in a facility, many are likely to undergo safe abortions that do not result in complications and that do not need medical treatment. Concomitantly, the poorer and less safe the available abortion services in a given setting, the lower the multiplier will be because a higher proportion of women using such services are likely to have serious complications that require treatment. Safety is not the only consideration. The multiplier is also a function of the general availability of emergency medical care in a given setting. Where such services are easily accessible, the proportion of women with complications who receive facility-based treatment will be higher. In poor regions or underdeveloped rural areas, on the other hand, where health facilities are few and far between, even women with serious complications may not get the treatment they need.

Estimates of the multiplier were made for the major four provinces based on respondents in the HPS survey working in the respective provinces, and on the composition of each province's population according to socio-economic status. The proportion of all women having abortion who experience and were treated in a health facility for complications range across provinces from a low of about 25% in Sindh to 27 to 31% in the other three provinces. Underlying these values are two counteracting factors - the use of dangerous methods (the proportion with a complication needing care in a facility) and access to healthcare (proportion who obtain care among those with complications needing care). The multiplier in Sindh is 4.0, 3.7 in Baluchistan, 3.5 in Punjab and 3.2 in KP. The product of the number of women treated for induced abortion complications and the multiplier yields an estimate of the total number of women having abortions. Nationally, this calculation is $623,000 \times 3.61$. We developed a range around this estimate of the number of women having induced abortion, using the confidence interval around the number of women treated in health facilities for induced abortion complications ($623,000 \text{ CI} \pm 116,000$ or 506,000-739,000; see Figure A1).

The sum of all live births, abortions and miscarriages (from intended and unintended pregnancies) yields the total number of pregnancies. To calculate unintended pregnancies nationally and by province, we summed the numbers of induced abortions, miscarriages attributable to unintended pregnancies, and unplanned births; the last measure was derived by multiplying the proportion of unplanned births (mistimed or unwanted at the time of conception) reported in the 2012-2013 PDHS by the number of live births.

Figure A1: Method for estimating the number of hospitalizations for post abortion complications attributable to induced abortion



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